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EXAMINER	
KADING, JOSHUA A	

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/663,774	BJORKLUND ET AL.	
	Examiner	Art Unit	
	Joshua Kading	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) *1-3* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 29 and 30 are objected to because of the following informalities:

Claim 29, line 2 states, "used to informing". This doesn't make sense. Therefore, claim 29, line 2 should be changed to --used to inform--.

Claim 30 identifies the status of the claim as "(Currently Amended)." However, claim 30 is the same as it was in the previous set of claims. Therefore, the status indicator of claim 30 should read, --Original-- or --Previously Presented--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4, 6-20, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany et al. (U.S. Patent 5,790,536) in view of Zyren (U.S. Patent 6,377,608 B1).

Regarding claim 4, Mahany discloses, "a multi-tier system for digital radio communication, comprising:

a first-tier base station comprising a first radio transceiver operating in accordance with a first communication protocol, the first-tier base station connected to a local area network (figure 1c, element 56);

a wireless device comprising a second radio transceiver operating in accordance with a second communication protocol independent of the first communication protocol (figure 1, all P devices);

a combination unit that is wirelessly connected to the first-tier base station and wirelessly connected to the wireless device (figure 1, element 61);

wherein the first communications protocol is employed for transmissions at a higher speed and has a longer range than the second communications protocol and wherein the first-tier base station communicates with the wireless device via the combination unit (col. 49, lines 66-col. 50, lines 1-10 where the "premise LAN" consists of the first-tier base station operating at a first protocol and the "peripheral LAN" consists of all P devices operating at a second protocol)..."

However, Mahany lacks what Zyren discloses, "wherein the first-tier base stations determines one or more discrete number frequency channels that may be utilized by the combination unit to communicate with the wireless device (figure 13 and col. 8, lines 10-20 where since the base station operates in the frequency range 120, it has determined the rest of the frequencies for the wireless device and combination unit to use)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the determination of discrete frequency channels for the purpose of

having the wireless devices communicate using frequency hopping. The motivation for using frequency hopping for communication is to avoid interference (Zyren, col. 3, lines 6-11).

Regarding claim 6, Mahany and Zyren disclose the system of claim 4. However, Mahany lacks what Zyren further discloses, "indicating to the combination unit the one or more discrete number of frequency channels that may be employed by the combination unit (figure 13 and col. 8, lines 10-20 whereby using the given frequency channels, the combination unit is informed of the channels with which it is permitted to communicate to the wireless device with)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the indicating the frequency channels with the system of claim 4 for the same reasons and motivation as in claim 4.

Regarding claim 7 and 15, Mahany discloses, "a system for wireless communication, comprising: a first-tier base station comprising a first radio transceiver operating in accordance with a first communication protocol, the first-tier base station connected to a local area network (figure 1C, element 56); a second-tier base station comprising a second radio transceiver operating in accordance with a second communication protocol independent of the first communication protocol (figure 1, element 61 where element 61 effectively acts as a base station for the peripheral elements P); a first-tier remote unit wirelessly connected to the first-tier base station through the first radio transceiver (figure 1C, the first element P connected to element

61); a second-tier remote unit wirelessly connected to the second-tier base station through the second radio transceiver (figure 1C, the second element P connected to element 61); wherein the first-tier remote unit connects to the first-tier base station via a first communications protocol using a wireless medium, wherein the first communications protocol utilizes frequency hopping to transmit a message over a discrete number of frequency channels within a frequency band (col. 32, lines 43-46 and col. 49, lines 66-col. 50, lines 1-10); wherein the second-tier remote unit connects to the second-tier base station via a second communications protocol using a wireless medium, wherein the second communications protocol utilizes frequency hopping to transmit a message over a discrete number of frequency channels within a frequency band, wherein the second communications protocol operates at a lower power level than the first communications protocol (col. 40, lines 51-56 and col. 49, lines 66-col. 50, lines 1-10 where it is fully possible for the second protocol operate as in a frequency hopping fashion)..."

However, Mahany lacks what Zyren discloses, "wherein the first-tier base station and the second-tier base station coordinate to determine the one or more discrete number of frequency channels that will not be used by the first communications protocol and direct the second-tier base station to use only the one or more discrete number of frequency channels that are not used by the first-tier base station (figure 13 and col. 8, lines 10-20 where since the base station operates in the frequency range 120, it has determined the rest of the frequencies for the wireless device and combination unit to use)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the determination of discrete frequency channels for the purpose of having the wireless devices communicate using frequency hopping. The motivation for using frequency hopping for communication is to avoid interference (Zyren, col. 3, lines 6-11).

Regarding claims 8 and 16, Mahany and Zyren disclose the method of claim 7 and the system of claim 15. However, Zyren lacks what Mahany further discloses, "the frequency band is the 2.4 GHz ISM band (col. 49, lines 66-col. 50, lines 1-10)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the frequency band for the same reasons and motivation as in claims 7 and 15.

Regarding claims 9 and 17, Mahany and Zyren disclose the method of claim 7 and the system of claim 15. However, Zyren lacks what Mahany further discloses, "the first communications protocol operates at a power level of about 100 mW (col. 49, lines 66-col. 50, lines 1-10)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the power level for the same reasons and motivation as in claims 7 and 15.

Regarding claims 10 and 18, Mahany and Zyren disclose the method of claim 7 and the system of claim 15. However, Zyren lacks what Mahany further discloses, "the second communications protocol operates at a power level of about 1 mW (col. 49, lines

66-col. 50, lines 1-10)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the power level for the same reasons and motivation as in claims 7 and 15.

Regarding claims 11 and 19, Mahany and Zyren disclose the method of claim 7 and the system of claim 15. However, Zyren lacks what Mahany further discloses, "wherein the coordinating with a transmitting device via the first communication protocol is accomplished using an access point (figure 1, element 56 where a base station is an access point)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the access point for the same reasons and motivation as in claims 7 and 15.

Regarding claims 12 and 19, Mahany and Zyren disclose the method of claim 7 and the system of claim 15. However, Mahany lacks what Zyren further discloses, "wherein the one or more discrete number of frequency channels that are not be being used by the first communications protocol are frequency channels on either end of the frequency band (figure 13 where the end of the spectrum is occupied by the discrete frequency channels of the second protocol)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the using the end frequencies of the spectrum with the second communication protocol for the same reasons and motivation as in claims 7 and 15.

Regarding claims 13 and 20, Mahany and Zyren disclose the method of claim 7 and the system of claim 15. However, Mahany lacks what Zyren further discloses, "wherein at least two of the one or more discrete number of frequency channels are not being used, and wherein the at least two frequency channels that are not be being used by the first communications protocol are the two frequency channels on either end of the frequency band (figure 13 where the end of the spectrum is occupied by the discrete frequency channels of the second protocol)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the using the end frequencies of the spectrum with the second communication protocol for the same reasons and motivation as in claims 7 and 15.

Regarding claim 14 and 31, Mahany and Zyren disclose the method of claim 7 and the system of claim 15. However, Zyren lacks what Mahany further discloses, "wherein the first communication protocol is the IEEE 802.1 1 protocol (col. 25, lines 63-65)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the IEEE 802.11 protocol for the same reasons and motivation as in claims 7 and 15.

Claims 5, 22-24, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany et al. and Zyren as applied to claims 4 and 15 above, and further in view of Treyz et al. (U.S. Patent 6,526,335 B1).

Regarding claim 5, Mahany and Zyren disclose the systems of claim 4. However, Mahany and Zyren lack what Treyz discloses, "the combination unit includes at least one of ports for communicating via infrared wireless transmission, facsimile transmission, and transmission using a modem (figure 3, element 124 is for infrared (IR); col. 14, lines 3-13 where the combination unit (wireless unit) communicates with devices that offer the same function as a facsimile; col. 24, lines 56-60 where the combination unit again communicates with devices that offer communication to a network via a modem)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the communication via IR, fax, and modem with the system of claim 4 for the purpose of providing the user with more services (Treyz, col. 1, lines 65-67). The motivation being that offering more services to users increases the products marketability.

Regarding claim 22, Mahany and Zyren disclose the system of claim 15. However, Mahany and Zyren lack what Treyz discloses, "the second communications protocol is used to identify a vehicle using a database of vehicle information (col. 32, lines 32-51)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the vehicle identification with the system of claim 15 for the purpose of correctly associating a vehicle's owner with the correct vehicle. The motivation being that if the vehicle needs to be located in a large area, the vehicle's identification is a way to search and locate the missing vehicle.

Regarding claim 23, Mahany and Zyren disclose the system of claim 15. However, Mahany and Zyren lack what Treyz discloses, that is "the second communications protocol is used to identify the identity and location of a missing vehicle (col. 32, lines 32-57)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the vehicle identification and location with the system of claim 15 for the purpose of finding a vehicle. The motivation being that if the vehicle needs to be located in a large area, the vehicle's identification is a way to search and locate the missing vehicle.

Regarding claim 24, Mahany and Zyren disclose the system of claim 15. However, Mahany and Zyren lack what Treyz discloses, that is "the second communications protocol is used to obtain diagnostic information for a vehicle (col. 3, lines 46-49 where the diagnostic information is wirelessly communicated to a printer)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the diagnostic information with the system of claim 15 for the purpose of maintaining a record of the condition of the vehicle. The motivation being that when problems arise, they will be detected and dealt with promptly.

Regarding claim 27, Mahany and Zyren disclose the system of claim 15, However, Mahany and Zyren lack what Treyz discloses, that is "the second communications protocol is used to transmit data about a fixed location to a vehicle (col. 32, lines 32-57)." It would have been obvious to one with ordinary skill in the art at the

time of invention to include the fixed location with the system of claim 15 for the purpose of finding a vehicle. The motivation being that if the vehicle needs to be located in a large area, the vehicle's identification is a way to search and locate the missing vehicle.

Claims 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany et al. and Zyren as applied to claim 15 above, and further in view of Smith (U.S. Patent 6,160,493).

Regarding claim 21, Mahany and Zyren disclose the system of claim 15. However, Mahany and Zyren lack what Smith discloses, that is "the second communications protocol is used to communicate among at least two moving vehicles (col. 1, lines 44-57 where it the first and second vehicle are communicating about collision avoidance)." It would have been obvious to include the communication between two moving vehicles with the system of claim 15 for the purpose of avoiding a traffic accident involving the moving vehicles. The motivation is to avoid vehicle or personal injury.

Regarding claim 25, Mahany and Zyren disclose the system of claim 15. However, Mahany Zyren lack what Smith discloses, that is "the second communications protocol is used among at least two vehicles to prevent collisions between the at least two vehicles (col. 1, lines 44-57 where it the first and second vehicle are communicating

about collision avoidance)." It would have been obvious to include the communication between two moving vehicles with the system of claim 15 for the purpose of avoiding a traffic accident involving the moving vehicles. The motivation is to avoid vehicle or personal injury.

Claims 26 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany et al. as applied to claim 15 above, and further in view of Jenkins et al. (U.S. Patent 5,928,291).

Regarding claim 26, Mahany and Zyren disclose the system of claim 15. However, Mahany and Zyren lack what Jenkins discloses, "wherein the second communications protocol is used to transmit information associated with a weight of a vehicle (col. 3, lines 42-59)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the transmitting of weight information for the purpose of transmitting information used in the calculation of various monetary fees. The motivation for transmitting the information electronically is one of speed and efficiency.

Regarding claim 30, Mahany and Zyren disclose the system of claim 15. However, Mahany and Zyren lack what Jenkins discloses, "wherein the second communications protocol is used to determine information associated with a toll (col. 3, lines 42-59)." It would have been obvious to one with ordinary skill in the art at the time

of invention to include the transmitting of toll information for the purpose of transmitting information used in the calculation of various monetary fees. The motivation for transmitting the information electronically is one of speed and efficiency.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany et al. and Zyren as applied to claim 15 above, and further in view of Pichey (U.S. Patent 4,017,825).

Regarding claim 28, Mahany and Zyren disclose the system of claim 15. However, Mahany and Zyren lack what Pichey discloses, that is "the second communications protocol is used by a vehicle to control traffic control signals (col. 1, lines 27-37)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the control of traffic signals with the system of claim 15 for the purpose of stopping traffic in the intersection. The motivation being that the traffic must be stropped in the intersection so that the emergency vehicle can get through.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany et al. and Zyren as applied to claim 15 above, and further in view of Levy (U.S. Patent 6,466,981 B1).

Regarding claim 29, Mahany and Zyren disclose the system of claim 15. However, Mahany and Zyren lack what Levy discloses, "wherein the second communications protocol is used to inform a prospective customer that a taxicab is available (col. 10, lines 21-36 where the notification has been communicated to the user

via a peripheral device similar to one in Mahany)." It would have been obvious to one of ordinary skill in the art at the time of invention to include the notifying a user that a taxicab is ready for the purpose of notifying the user of real-time events. The motivation for notifying a user of real-time events would be so that the user has an up to date account of the status of the event.

Response to Arguments

It is noted that applicant acknowledges the defective Oath and Declaration as stated in the previous Office Action mailed 29 April 2004, however, since there was no substitute Oath and Declaration, the objection to the Oath and Declaration from the previous Office Action is maintained until a corrected Oath and Declaration is submitted.

Applicant's arguments, see REMARKS, page 12, paragraph 4, filed 4 October 2004, with respect to the claim objections have been fully considered and are persuasive. The objections of claims 4, 5, 7, 12, 13, 15, 19, and 20 have been withdrawn.

Applicant's arguments, see REMARKS, filed 4 October 2004, with respect to the 35 U.S.C. 112 first and second paragraph rejections for claim 26 and claims 13, 20, 26 and 30 respectively have been fully considered and are persuasive. The 35 U.S.C. 112 first and second paragraph rejections of claim 26 and claims 13, 20, 26 and 30 have been withdrawn.

Applicant's arguments with respect to claims 4-31 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (571) 272-3070. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joshua Kading
Examiner
Art Unit 2661

January 5, 2005

BOB PHUNKULH
PRIMARY EXAMINER